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(54) Title: PROCESS FOR LARGE SCALE PRODUCTION OF PLASMID DNA BY *E. COLI* FERMENTATION

(57) Abstract: The present invention relates generally to a method for increasing the yield of plasmid DNA production. The method includes the steps of selecting a highly productive clonal subtype of a strain of *E. coli*, including but not limited to the DH5 strain, harboring a DNA plasmid and cultivating said clonal subtype with fed-batch fermentation in a chemically-defined medium. The plasmid DNA production process described herein can generate record quantities of plasmid DNA when said highly productive clonal subtypes are cultivated on an industrial scale. The disclosed method can be used for the production of pharmaceutical grade DNA for use in polynucleotide vaccination and gene therapy treatment regimens.

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